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ABSTRACT

Of the many areas of instruction offered in a comprehensive high school, business education lends itself most readily to the open space concept for two reasons. First, business education is so organized that the interchange of subject matter lends itself to team teaching, individualized instruction, and other aspects usually incorporated into an open classroom concept. Second, business education is a terminal curriculum preparing pupils to enter the business world where work is conducted under conditions similar to those in an open classroom, and inversely, the direct antithesis to a curriculum of segmented instruction offered in a traditional high school. The senior high school, usually more conservative and traditional in its outlook, has been slower to accept and to adopt this new concept. However, in recent years, a number of open classroom high schools have been built or are presently under construction. The information contained in this publication is, to a large extent, based on the experience and the outcome of a 3-year vocationally funded research study conducted at the Pennridge High School, Perkasie, Pennsylvania. These guidelines should be helpful to those educators interested in initiating an open classroom, student-oriented vocational business education program. (Author)

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Organization of An Open Space Business Education Program

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MESSAGE FROM THE SECRETARY OF EDUCATION

The information contained in this publication is, to a large extent, based on the experience and the outcome of a three-year vocationally funded research study conducted at the Pennridge High School, Perkasie, Pennsylvania. It was prepared by Natalie P. Nichols, chairman of the school's business education department. The professional contribution of Mrs. Nichols in the development of this publication is greatly appreciated. These guidelines should prove invaluable to those educators who are interested in initiating an open classroom, student-oriented vocational business education program.

I personally visited the Pennridge open space business education department on May 26, 1972, and was greatly impressed with what I observed. I suggest that school administrators and business educators avail themselves of the opportunity to visit this program.

John C. Pittenger

September 1973

PREFACE

The open space classroom environment has been with us for more than a decade. An English import, born out of the necessity of war-torn Europe, open space captured the imagination of the faculties of many American universities. Through their influence the open space concept initiated many innovative programs, mostly on the elementary level. By 1965, the open space programs were organized in some middle schools and junior high schools.

The senior high school, usually more conservative and traditional in its outlook, has been slower to accept and to adopt this new concept. However, in recent years, a number of open classroom high schools have been built or are presently under construction.

Of the many areas of instruction offered in a comprehensive high school, business education lends itself most readily to the open space concept for two reasons. First, business education is so organized that the interchange of subject matter lends itself to team teaching, individualized instruction and other aspects usually incorporated into open classroom concept. Second, and more important, business education is a terminal curriculum preparing pupils to enter the business world where work is conducted under conditions which are similar to an open classroom, and inversely, the direct antithesis to a curriculum of segmented instruction offered in a traditional high school.

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ORGANIZATION OF AN OPEN SPACE BUSINESS EDUCATION PROGRAM

Most pupils who enroll in the vocational business education curriculum do so because they hope to qualify for the starting office positions available to them. Therefore, the raison d'etre of any vocational business education department is to inaugurate and conduct a program which will aid the pupils to reach these goals. All subject matter and all environmental factors wherein this learning takes place should be directed toward how well the pupils perform both vocationally and emotionally on their initial jobs, as well as, how well they are prepared to grow and progress further in their chosen field.

To help the pupils qualify for the labor market, the vocational business education staff must endeavor to create an educational climate in which the pupils can learn to perform vocational tasks in acceptable manner set forth as a criterion for the beginning job; accept the emotional and the psychological environment in an office where silence is the exception and not the rule; work in and with groups of co-workers, participating in the easy give- and-take of a common effort; make the transition from a school situation to an office atmosphere as painlessly as possible and be *"self-starters"* and *"self-checkers."*

Those educators who have been involved in an open space environment contend that all of the above listed goals can be met more expeditiously in an open classroom than in a traditional lock-step situation where pupil initiative is limited, where silence reigns supreme, where there is no perceivable interaction among peer groups and where the vocational excellence in isolated subject matter areas is achieved at the expense of total pupil growth.

STAFF SELECTION

Before considering the methodology of instruction which is an integral part of an open space program and the physical characteristics essential to such a program, perhaps the greatest problem is the selection of the teaching staff and its subsequent orientation.

Obviously, the staff of any department which totally commits itself to an open space learning situation must, of necessity, move into the new environment. Yet, even under these circumstances, assignments of specific areas of instruction should be such as to guide those less adaptable and more rigid in their philosophy into areas such as shorthand and accounting where there may be potentially less frustration because the subject matter lends itself more easily to traditional presentation. On the other hand, in other areas there is inherently greater opportunity for *"openness"* as witnessed by the fact that office practice has always been less rigid even in a standard classroom.

The more rigid the subject matter, the more ingenious should be the teacher assigned to present the material if the desired *"openness"* is to be achieved. Therefore, when personnel is selected the following factors should be considered. First, does the school expect to achieve open learning irrespective of the fact that one or more members of its staff might be frustrated? Second, does the philosophy of the school system prefer a reasonably happy staff and less *"openness"*? Neither decision is an easy one and neither provides a clear cut solution. A compromise must be reached which will give optimum results with minimum frustration.

In any school reorganization, if only part of the business education staff will participate in the open learning situation, selecting the personnel may seem easier. The obvious answer is to ask for volunteers. This may seem like an easier solution; however, it can be wrought with pitfalls. First, even if the program is explained in depth, do those volunteering really understand its total implications? Second, are they truly dedicated to the new and untried in education? Third, will they back away once the novelty wears off? Fourth, are they fully aware of the work and the disappointments which any new venture entails?

To avoid jeopardizing the entire program because of an inordinate amount of frustration, perhaps a more prudent method of selection, where such selection is possible, might be to make a careful evaluation of each volunteer in a team effort in open space learning and assessment of his or her chances at potential success in the program.

Adaptability and Flexibility

These are probably the most important assets that a teacher can have who hopes to enter into the unknown and, to a large extent, unchartered waters of open space teaching in the business education field. There are few guidelines and very little literature on the subject. There are even fewer on-going exemplary programs to emulate.

A total commitment to an area of specialization blinds many teachers to the inalterable fact that pupils have diverse abilities, desires, goals and motivation. The subject-oriented teacher may find open space teaching, with its emphasis on individualized instruction, difficult and self-defeating.

Sense of Direction

Some teachers are fine instructors as long as there are syllabi, texts, courses of study, etc., already prepared for their use. To be able to depend solely on their own plans and still stay on safe educational grounds is one of the most important attributes of a successful teacher in open space where there is so much flexibility in instruction and so few guideposts.

Ability to Structure Learning Situations

Structure of a learning situation and discipline as found in a traditional classroom are two different things. One of the criticisms of many open space programs is that the learning process is unstructured and the pupils seem to be doing *"their own thing."* On the contrary, successful open space programs are anything but unstructured, even if that structure is not as evident as in a highly authoritarian classroom.

It is true that complete silence and other strictures are not imposed upon the pupils. Indeed, they are encouraged to move freely from area to area. Some will work in groups, others alone, much like in any orderly office. The teacher who handles a group or supervises an area of instruction must have full control. Further, he or she must know what each individual or each group is doing and offer help and guidance when necessary to promote learning. This requires much preparation, good basic background in all areas of business education including business English and business mathematics and a special endowment to relate to young people and their problems.

Ability to Cooperate

Many fine teachers are essentially *"loners."* They do fine work within the confines of the four walls of their classrooms. In an open space learning situation, they become inhibited. Where three or more teachers may have to share equipment, materials of instruction, and adapt their schedule to team teaching, these individuals find difficulty in implementing their work plans, even if these plans have been carefully prepared beforehand. Furthermore, some teachers feel inhibited when teaching within the sight or hearing of their peers.

Physical Stamina

Open space is a demanding concept–on body as well as mind. Constantly moving from one group to another, from one individual to another, can be exhausting. A prolonged absence of a teacher plays havoc in open space much more so than in a standard classroom because adequately trained substitutes are difficult to find. Furthermore, so much of the teaching is so personal that the substitute often feels at a loss as to what is expected. Therefore, if a teacher is ill, the burden of the entire teaching process falls on other members of the team.

Sense of Humor

As with all innovative programs, especially in their initial stages, situations will arise *"to try men's souls."* Frustrations will develop. A cheerful disposition, ability to laugh at oneself, right perspective in regard to the foibles of one's peers and a keen sense of understanding of the pupils are an immeasurable help to the success of the program.

STAFF ORIENTATION

No matter how carefully selected, proper orientation of the teaching staff will be responsible for its ultimate success. This orientation should include an acquaintanceship with all aspects of the proposed program and specific preparation for its implementation.

Acquaintanceship

Any new program is a threat to the established order of one's daily routine. This threat can be very

real especially to teachers who have been successful in the old, tried methods of teaching. Therefore, all innovations should avoid any semblance of coercion or an inordinate sense of haste. Staff members must have time to absorb new philosophies and new methodology. They must adopt them as their own, and finally arrive at an inner conviction that the new concepts might have merit and deserve a fair trial. To achieve this conversion a number of approaches might be employed.

1. Visit successful, open space programs especially while these programs are in session. Merely looking at layout and equipment is not enough. Seeing the program function is by far more effective.

2. Hear dynamic, dedicated speakers who, preferably from personal experience, can explain the program's possibilities and generate enthusiasm in the staff.

3. Read pertinent material that describes open space facilities, gives examples of its application and explains its benefits to pupils.

However, all of the above methods are essentially passive situations wherein the staff sees, hears and observes what is done or thought by others. While this initial step may be important, true change in philosophy comes more easily from personal involvement. Here, seminars and *"buzz"* sessions might be successfully employed. There might be much misinformation, criticism, skepticism and, perhaps, downright hostility to the new program. Nevertheless, a healthier attitude will prevail if the staff has an opportunity to discuss their fears and apprehensions. Again, this will take time, patience and leadership which is keenly attuned to staff needs. The staff and not the physical environment ultimately will make or break the new program.

Preparation

Once the staff has made a firm commitment to try an open space organization, the administration should make available time and resource materials necessary to prepare units, formulate plans and set up procedures which are inherent in the open space business education concept. Much of this preparation will be detailed and will take considerable time and effort on the part of each participating teacher either working alone or in groups with other teachers. Yet, without this adequate and comprehensive preparation, open space will start haltingly, progress sporadically and function badly or not at all.

Therefore, the school which commits itself to an open space business education program should start its planning one full school year before the physical change is made. While going through this initial process, teachers should be encouraged to try their new plans, modified whenever possible because of traditional surroundings, thus familiarizing both the pupils and the teacher with at least some aspects of the new methodology.

METHODOLOGY

The uniqueness of the open space learning concept makes it possible for the teachers and the pupils to experiment with several methods of learning not readily feasible in the conventional classroom situation. The entire program needs to be so designed as to bring a natural continuity of learning into one meaningful whole. This means there should be little or no separateness of disciplines not only within the business education subjects but also in the related basic education areas, such as English usage and computational processes.

Instructional Program

Vocational competencies should grow out of the necessity to perform tasks as they would naturally occur in an office situation. Further, pupils should be encouraged to spend only the amount of time on any given task as required to complete that task satisfactorily. The progress of each pupil ought to be independent of the progress of other pupils in the group. Following are some of the aspects to be considered.

Flexible Scheduling. Scheduling which is flexible varies as it fits the subject matter and the assigned tasks. This makes possible the movement of pupils from one instructional area to another on an individual basis as the need arises.

Unit Approach. The unit approach enables pupils to progress at their own pace. Thus, pupils of higher ability can acquire a broader competence, while the slower pupils can master basic skills.

Team Instruction. Team instruction uses more effectively each instructor's prime interest and broadens the entire educational program.

Conference and Small Group Instruction. Instruction of this type allows teachers and pupils to examine the content of many areas in a more informal manner. Shy pupils can verbalize and other pupils are encouraged to work in committees that deal with a broad variety of economic and business interests. Most important of all, it is a method of reinforcement for the less gifted pupil who is having trouble in understanding some concept or acquiring a particular vocational skill.

Chain Teaching. Chain teaching makes each pupil responsible for instructing the next one in some specific vocational or basic skill. This method relieves the teacher from repetitive teaching, reinforces acquired skill in the pupil-teacher and is an efficient way to utilize one-of-a-kind equipment.

Electronic Programmed Teaching. Tapes, video equipment and steno-labs free the teachers from many essential, but repetitive and routine, tasks and allow them to circulate among the pupils giving assistance wherever necessary.

Cooperative Education. In any terminal high school program the ultimate goal is the employability of the pupil. It is futile to keep the pupil in school once the point of employability has been reached. Far more can be accomplished for the pupil by placing him or her in a real job situation while still under the aegis of the high school program where the staff is ready to give assistance if and when necessary. Because of the flexibility of the open space program with its uncommitted blocks of time, schedules can be worked out so that pupils can profit by at least a half-day's work in an office and still continue with their academic schedule.

Implementation of Program

To implement any or part of the above, program planning time made available to the faculty, employment of teacher's aide and community involvement should be explored thoroughly.

Planning Time

Planning time is, in the final analysis, the crux of the entire program. Planning time, both for the individual teacher working on a specific unit and for a group of teachers working on a team-teaching project, needs to be part of the schedule in any open space concept of education. Records can be kept by a paraprofessional teaching aide; electronic equipment can take the onus of repetitive tasks from the professional teacher; but, planning individual units, devising pre- and post-tests, preparing materials to be used with the electronic equipment and evaluating results are the province of a professional instructor and cannot be delegated to anyone else.

Teacher's Aide

A teacher's aide is essential to the successful and effective administration of any open space teaching environment. Because open space is essentially an individualized type of instruction tailored to the needs of individual pupils, many teaching devices and programs must be manipulated simultaneously. To free a highly-trained instructor from the many nonprofessional yet essential duties--marking objective tests, administering timed pre- and post-tests, checking attendance, keeping individual records of tasks performed, checking electronic equipment and other materials of instruction--the employment of a teacher's aide is educationally and economically sound.

Community Involvement

Community involvement should be a viable part of any business education program in an open space classroom situation. The entire concept is based upon the employability of each pupil by graduation time. Therefore, the staff should know what the business community requires of its beginning employes, the trends of automation, the new business machines and procedures. To get these answers, every effort should be made to involve the business and professional men and women of the community in the program. Their advice should be sought both formally, as in an advisory committee, and informally as present and potential employers. Visits to local offices by groups of pupils should be part of the program. Speakers from the business community should be solicited. Above all, visits by the community leaders to the open space facility should be encouraged, and their advice as to changes in the physical layout be carefully considered.

LAYOUT

Any school district which decides to commit itself to an open classroom concept need not be deterred by a seeming lack of existing space and shelve the project until new school facilities specially designed for this

type of teaching are under construction. There is much merit in trying the open classroom concept on a small, piecemeal basis, thus helping to orient the entire staff and the community to its advantages. There are two areas where one might look for appropriate space—existing school facilities used for other purposes and unused commercial facilities within a reasonable distance from the school.

With regard to commercial facilities, vacant warehouses, stores and factories can be successfully converted into open classroom areas. Since pupils come to an open classroom for a designated block of time, there is no appreciable wasted time for *"passing"* from class to class within that block of time. Therefore, a distance from the high school which may consume up to six minutes of pupils' time should not be a deterrent to the selection of any otherwise desirable facility.

Actually, the only prerequisites for open space learning-teaching areas are that they be unobstructed by weight-bearing partitions, within or convenient to the existing school facilities and sufficiently large to accommodate the number of pupils assigned to them. Any area can be made into open space classroom quarters with some paint, proper lighting, a carpet and adequate climate control. The interior arrangement within the confines of this space is limited only by the ingenuity and the imagination of the staff who will use the area.

When figuring square footage of available space, one must constantly keep in mind that pupils working singly or in small groups, while not separated by physical walls, must be separated by empty space. For an efficient teaching-learning situation the minimum barrier of empty space should be 15 feet for a fairly large group and 8 feet for smaller groups. When learning groups are much closer together than that, those on the periphery have difficulty in participating and will be annoyed by the adjacent group of pupils involved in other activities.

When new facilities are contemplated, architects, school administrators and the business education staff have a number of choices which they may use in the matter of layout for an open classroom space in business education.

Location

In relation to the rest of the high school, some educational authorities feel that the idea of completely separating vocational and academic facilities is abhorrent to the American democratic processes. Therefore, business education open space facilities should be located within the plan which would allow an easy intermingling of both the academic and vocational pupils. Moreover, business education, open or closed classroom method notwithstanding, has much to offer to the academic and general pupil on a part-time basis.

Interior Arrangement

The interior arrangement should contain several specialized, if not rigidly specified, areas which should flow one into the other without obstruction. The following are areas which might be included.

Faculty Preparation Center. This facility should be strategically located, possibly on a raised platform to allow a complete overview of the *"open space."* This *"mezannine floor"* could be located over the storage center, thus saving space within the departmental complex. The faculty center should include a station equipped with a desk and file for each teacher as well as a conference table, general files, reference material, etc. Teachers desks should not be placed in the open space area for two reasons: First, teachers who do not have desks within the teaching area tend to circulate among the pupils. Second, the lack of a desk precludes any staff member designating a specific area of the floor as *"my classroom"* albeit it has no walls.

Satellite Library. A library should provide shelf space for business reference manuals, dictionaries, directories, business magazines and general content books which deal with American business, economics, office management, personal grooming and job opportunities. Filing cabinets for clippings, bulletin boards for displays and wet and dry carrels should also comprise this area. The library need not be large nor take up a great deal of space.

Individual Study Areas. These facilities need not be specifically designated. Any carrel equipped with electricity makes an individual study unit for a pupil who is typing. A dry carrel in the library can be used for reference work preceeding the typing. An overhead projector sheltered by a divider can serve as a self-check station for a pupil who just completed a pre-test.

Small Group and Conference Areas. These areas can be located anywhere in an open class area. A table with four chairs located near the source of reference provides an area for two or three pupils working as a group, with the fourth chair reserved for the instructor

when his or her presence is needed. Small group instruction can be located near a typing pool, in the electronic areas or close to business machines. These groups may change location as needed. Fifteen chairs in a circle, a portable chalkboard, 15 pupils working on the same subject matter make an adequate small group instruction unit.

Typing Pool. Because of the electrical connections, this is a semipermanent installation. This facility should be located as far as possible from the relatively more *"quiet"* areas such as the library. Yet it has been found that the steady click of the typewriters even in large numbers, if properly deadened by carpet, is not distracting to pupils occupied with other activities. The noise is monotonous and is *"tuned out"* by both the pupils and the instructor in a very short time.

Office Machines Area. This area should be centrally located with easy access from both the typing and accounting areas. The variety of equipment is limited only by the amount of funds allocated for this purpose. In case of an offset duplicator, special sound-deadening baffles might be useful. However, like the typewriters, the monotonous noise of a stencil duplicator, a liquid duplicator and an offset duplicator are soon ignored by the pupils in adjacent areas. Present-day electronic calculators are completely noiseless.

Pupil Relaxation Area. A pupil lounge is a little bit of froth that makes business education open space operation work more smoothly. Educationally, it can be justified by the fact that the *"coffee break"* has become the great American Institution in the Seventies. All future employes will encounter a coffee break. How they will react to this phenomenon will depend, to a great extent, upon the exposure they receive in their pre-employment days. Knowing how to handle a coffee break is not an innate characteristic; it must be taught just as good grooming and deportment must be taught.

The pupil lounge can also be justified on purely pragmatic grounds. In open space, the pupils are assigned to the business education area for a block of time–usually two and a half hours in length. Even if pupil movement is unrestricted, business-like atmosphere prevails. To expect young people to concentrate for that length of time without a break in the routine is unrealistic and invites problems–problems which can be solved by allowing pupils a few minutes to eat a snack and to relax in a place they call their own.

Closed Area. A closed area that can be darkened should be located adjacent to the open space facility. There are times when instruction is implemented and progress more expeditious in a strictly closed area. One of these times is when a large segment of new material is presented, explained and, perhaps, illustrated with an overhead projector. To darken a large area is extremely difficult. Furthermore, mechanical voice reproduction, as a movie, is extremely distracting to others. A closed space also is sometimes necessary when speaking privately to a select group of pupils on matters of no concern to others. Every open space operation should plan on one such area.

Storage Space. This place is extremely important because of the very nature of the business education course offerings. In open space this necessity for storage is quadrupled because of the large quantity of supplementary material to be retained. A teacher who developed a course of study at a great expenditure of time and effort expects to keep this material intact for several years. There are self-tests, pre-tests, post-tests, tapes, films, overhead projector materials, project directions, clippings, cassettes, head phones, booklets, etc.–all this must be stored safely and systematically.

Add to this the other material usually stored in business education–practice sets, typing paper, office supplies–and the amount of space necessary in the planning of storage is truly astronomical.

EQUIPMENT

The equipment of any business education department may be divided into three categories: office machines, electronic teaching aids and furniture and furnishings. When considering these three broad categories in open learning environment, the first category, office machines, remains, for all intents and purposes, the same as for a traditional department. The difference lies in the two latter categories–teaching aids and furniture and furnishings.

Office Machines

Office machines should be representative of those found in offices where the pupils will eventually find employment. The more progressive business education departments take periodic surveys of local businesses, receive descriptive literature of what is new on the market, and have instituted a schedule of periodically updating the existing equipment. Usually this equipment consists of the following in descending

order of importance: typewriters, duplicators (fluid, stencil, offset), transcribers, calculators, adding-listing machines, collaters, staplers and binders. The quantity and the quality of these items are determined only by the available financing.

Teaching Aids

Perhaps the greatest difference between traditional and open learning philosophy of education is that the latter makes more effective use of electronic equipment as teaching devices. Because so much teaching is on an individual basis, many tapes, transparencies and other aids should be available to take full advantage of the flexibility built into this approach to business education.

Historically, there has always been a great number of commercial teaching aids in the business education field, such as practice sets in accounting, office practice, etc. Recently, commercial independent study units in beginning shorthand have become available. When augmented by tape recordings, they make effective teaching devices. However, any business education department which ventures into open space and depends solely upon commercial tapes and packets, is merely skimming the surface of the vast possibilities inherent in this approach to education. Many, in fact most, tapes and transparencies should be developed by the staff. No commercial firm can hope to know all the local needs of the community nor the abilities and goals of the individual pupils. A teacher-made electronic device should be considered another vital link between the learner and the teacher.

The following electronic material should be given consideration: overhead projectors (at least one for each teaching area); a laminator to protect transparencies; opaque and film strip projectors; wireless four-track stenolabs (wireless system being preferable to wired system because it allows more flexibility of movement), tape recorders and tape play-backs and closed-circuit TV.

Since 75 per cent of all business originates and is conducted over the telephone, a closed-circuit switchboard should be considered an important electronic teaching aid. This intercom switchboard could have leads to the typing area, to the carrels in the library and to other areas in the open space facility. It should be used freely by the pupils in communicating with teachers and with other pupils.

Furniture and Furnishings

When considering furniture and furnishings, one must consider two things: portability and unity of space.

Any furniture recommended for an open space facility, must of necessity be completely portable. This mobility must be measured by the ease with which not only chairs, tables and desks may be shifted from place to place, but how easily and quickly the carrels and the dividers can be relocated without custodial help. The criterion of portability should be: Can a teacher and/or a pupil move a piece of equipment with ease? There are numbers of firms which specialize in portable school furniture, although most of them feature elementary and middle school equipment.

The following should be given special consideration.

First, carpeting is a must because no open space facility can function effectively without its noice-deadening effect. The carpet chosen should have a wire interwoven throughout its core. This prevents the build up of static electricity, especially severe during winter months. A carpet also has a great esthetic value in that it unites the area into one whole, giving pleasure to the eye and to the foot.

Second, chalkboards should be revolving and on castors. They should be no larger than 4 by 6 feet as larger ones become unwieldy. One of the revolving sides should be white for the use of an overhead projector.

Third, space dividers should be a combination of tack- and chalkboard. They should be on castors and no larger than 5 by 8 feet; otherwise, they become too heavy for constant relocation which is their prime purpose. It is further suggested that not too many of these be purchased as experience shows that as soon as the staff becomes acclimated to the open space, they no longer use the dividers.

Fourth, carrels should have chrome legs with glides. Each carrel table should be no smaller than 30 by 36 inches to be of effective use. An electric leg is helpful to plug in electronic equipment.

The satellite library needs shelving, carrels and round tables (about 48 inches in diameter) for conference work. Triangular tables may also be used

effectively since they can take all sorts of shapes as necessary. One or two portable library carts are helpful to move reference material to other parts of the area.

Typing and office practice areas may be equipped with two styles of typing desks. The "Z"-shaped desks, which take considerably less room since they accommodate two pupils to one desk, are not recommended for standard electric typewriters because they vibrate excessively. "L"-shaped desks accommodate standard electrics without vibration but they take much more room. All typewriter desks should be wired for electricity in such a manner that the current for six, eight or ten typewriters comes from one source. Rubber mats under all typewriters are highly recommended. They help deaden the noise to a considerable degree.

Plastic tote trays, one for each pupil assigned to open space, are a convenience both to the staff and the pupils. If all desks are equipped with special slides, these tote trays may be carried by the pupil from one area to another, slide under the desk where he or she is presently working and provide all the necessary supplies adequately and neatly. The recommended size for the tote trays is 24 by 36 inches. The use of tote trays necessitates storage cabinets when the trays are not in use. Several cabinets, 24 by 72 inches, are recommended. Each can store up to fifty tote trays.

All other equipment and furniture should be similar to that used in standard classrooms. However, care should be taken that there is similarity in this equipment so that the entire area will appear as one unit.

A sense of unity and cohesiveness of space must be preserved to avoid coldness and a barn-like atmosphere. Bulletin boards, display cases, shelving, colorful cupboards, paintings on the existing walls and judicious use of color must be considered as an important part of furnishing and equipping any open space facility.

CONCLUSION

In summary, after a hiatus of almost two decades (the Sputnik years) during which time most educational priorities were directed toward the preparation of young people for professional careers, vocational education is once more engaging the serious attention of many educators. Each year it is becoming increasingly apparent that terminal secondary school vocational education is a necessary part of the total educational program in preparing a large segment of young people for effective and meaningful adult lives.

Business education continues to move ahead with new methodology stressing individualized, noncompartmentalized approach to vocational competencies taught in open areas much like standard offices being one of the more promising innovations.

Open learning is a flexible concept of education. Inherent in this concept is a challenge to each business education staff to devise and implement a program best suited to its own pupils and to its own community vocational needs.